

***Reasons For Allowance***

1. In light of the amended claims suggested by the Examiner, claims 1-4, 7, 9-11, 15-20 and 23 are allowed.
2. Claims INDEPENDENT(S) are considered allowable since when reading the claims in light of the specification, as per the MPEP §2111.01 or *Toro Co. v. White Consolidated Industries Inc.*, 199 F.3d 1295, 1301, 53 USPQ2d 1065, 1069 (Fed. Cir. 1999), none of the references of record alone or in combination disclose or suggest the combination of limitations specified in the independent claims including subtracting a matrix from the kernel data to provide an updated kernel data, each component of the matrix comprising a dot product of two of training samples provided by at least a part of the training data that corresponds to the eliminated feature as stated in claims 1, 9 and 17.
3. A practical application for the invention is disclosed in ¶0001 for use in disease genes selection.
4. The closest prior art ('Support Vector Machines and other kernel based learning methods'; referred to as *Cristianini*) teaches a method comprising: determining a value for each feature in a group of features provided by a training data (*Cristianini*, p30; 'Training data' of applicant is equivalent to 'training points' of *Cristianini*. 'Determining

the value for each feature' of applicant is accomplished by the 'decision rule' of Cristianini.); eliminating at least one feature with one of a minimum value and a maximum value from the group (Cristianini, p29; Eliminating a minimum value and a maximum value of applicant is maps to 'detection of irrelevant features and their subsequent elimination' of Cristianini.); retrieving a kernel data from a buffer. (Cristianini, p125; 'Buffer' of applicant is equivalent to 'memory space' of Cristianini.) as cited in claim 1.

Complementary art ('Gene Selection for Cancer Classification using Support Vector Machines': referred to as **Guyon**) teaches repeating of eliminating the at least one feature from the group and updating the value for each feature of the group until a number of features in the group reaches a predetermined value to generate a feature ranking list (**Guyon**, Summary, p9; 'Repeating' of applicant maps to 'recursion' of Guyon. 'Elimination the at least one feature' of applicant maps to 'recursive feature elimination (RFE)' of Guyon. 'Updating the value for each feature' of applicant maps to ' $c_i = (w_i)^2$ , for all  $i$ ' of Guyon. 'Until a number of features in the group reaches a predetermined value' of applicant maps to 'repeat until  $s = [ ]$ ' of Guyon.); and recognizing a new data corresponding to the group of features with the feature ranking list (**Guyon**, p9; Recognizing a new data with the feature ranking list of applicant maps to 'output: feature ranked list  $r'$  of Guyon.) as cited in claim 1.

However, none of the references record alone or in combination disclose or suggest the combination of limitations specified in the independent claims including

subtracting a matrix from the kernel data to provide an updated kernel data, each component of the matrix comprising a dot product of two of training samples provided by at least a part of the training data that corresponds to the eliminated feature as stated in claims 1, 9 and 17.

5. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter Coughlan whose telephone number is (571) 272-5990, Monday through Friday from 7:15 a.m. to 3:45 p.m. or contact the Supervisor Mr. David Vincent at (571) 272-3080.

/P. C./

Examiner, Art Unit 2129

Peter Coughlan

Patent Examiner

10/22/2009

/David R Vincent/

Supervisory Patent Examiner, Art Unit 2129